REPORT

ON THE

Government Horticultural Gardens,

LUCKNOW,

FOR THE

YEAR ENDING 31st MARCH 1902.

ALLAHABAD:

Printed at the United Provinces of Agra and Oudh Government Press.

1902.

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Hemendra Kothari

on 24 February, 2020

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No. $\frac{2595}{V-606}$ 1902.

FROM

W. H. MORELAND, ESQ.,
DIRECTOR OF LAND RECORDS AND AGRICULTURE,
UNITED PROVINCES OF AGRA AND OUDH,

To

THE CHIEF SECRETARY TO GOVERNMENT,
UNITED PROVINCES OF AGRA AND OUDH,

Dated Lucknow, the 28th May 1902.

SIR,

I HAVE the honor to submit the report on the Lucknow Horticultural Gardens for the year ending March 31st 1902. The report has been drawn up in accordance with the recommendations of the Officer on special duty in connection with the curtailment of reports and returns.

2. The efficiency of the administration has been maintained during the year.

3. Acknowledgments are due to the contributors mentioned in Appendix B.

I have the honor to be,
SIR,
Your most obedient servant,
W. H. MORELAND,
Director.

Maximum limit of report, 7 pages.

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ERRATA.

Report on the Government Horticultural Gardens, Lucknow, for the year ending 31*st March* 1902.

Page 1, line 4. For "Introduction" *read* "Introductory."
" 1, line 5 of paragraph 5. For "Laconti" *read* "La Conte."
" 2, line 4. For "undetaken" *read* "undertaken."
" 2, line 15. For "Mary Queen" *read* "May Queen."
" 2, line 1 of paragraph 8. For "receipt" *read* "receipts."
" 3, line 7 of paragraph 11. Omit "the" before "subscribers."
" 3, line 1 of statement. For "dallachayna" *read* "dallachyana."
" 3, line 2 of statement. For "datepalms" *read* "Date Palms."
" 4, line 2 of paragraph 13. For "Wing field" *read* "Wingfield."
" 4, line 3 of paragraph 13. For "exhibits in the flower section" *read* "exhibition, the flower sections"
" 6, line 6, from bottom in the right hand column. For "Mangoteen" *read* "Mangosteen."

REPORT on the GOVERNMENT HORTICULTURAL GARDENS, LUCKNOW, for the year ending 31st March 1902.

I.—INTRODUCTION.

1. *Charge of the gardens.*—With the exception of one month and twenty days I was in charge the rest of the year. In the above period I was absent on privilege leave which was taken from the 20th of May to the 9th of July. The Head Clerk Durga Pershad held charge during my absence and carried on the duties satisfactorily. The Second Clerk has improved in his work and the head mali and his assistants have worked well.

2. *Important administrative events.*—Under this head may I think appropriately be mentioned the change made in the form of drawing up the Annual Report, which is now submitted in conformity with the form laid down by the Special Commissioner, Mr. Impey, in his Report on the reduction and curtailment of reports, &c.

3. *State of the gardens.*—As the result of a succession of unfavourable seasons the general state of the gardens is below the average. This applies to the permanent fruit and other trees, not to the nurseries which are in very good order and well stocked. The several buildings and plant houses are in good condition, but the roads are sadly the reverse and badly need not only metalling but widening, particularly the main roads. The one on the west side of the garden was widened and remetalled with kankar for a length of 686 feet and 12 feet wide.

4. *Character of the season.*—The hot weather was again prolonged and more intense than has been experienced for several years past, even large trees were severely tried and great difficulty was found in keeping fruit and other trees sufficiently supplied with water. The monsoon rains were again light and interrupted with rather long breaks; they ceased early and no rain fell in the cold season: for the long period of six months no rain to speak of has fallen: the result is that both earth and air are extremely dry and vegetable life in general is having a bad struggle for existence. Frost was sufficiently severe on a few days in January to injure young mango trees. On the whole the season was very decidedly unfavourable to general horticultural work.

II.—ACCLIMATISATION AND OTHER EXPERIMENTAL WORK.

Fruit crops.

5. *Fruit and food producing trees and plants.*—The principal fruit crops in the garden were again a failure. Oranges and pine apples were about average crops, while mangoes were almost a complete failure and loquats, jack fruits, plums and peaches gave very light returns.

California pears.

The two California pears Laconte and Kieffer fruit regularly at Saháranpur, but have failed to do so in this garden; the effect of leaving the trees unpruned is now being tried; the plants are vigorous and healthy enough and have given a little blossom but no fruit has set.

Nursery of new kinds of mangoes.

For the purpose of propagation a small block has been planted with several trees of each kind of the best of the recently introduced mangoes. It is found very difficult to get good scions from old trees when their lower branches have either decayed or been removed by propagating; so that for nursery work, new plantations of young trees are a necessity at intervals of eight or ten years. There was a good demand for fruit trees of nearly all kinds, and the large stock of mangoes left over from last year was almost entirely disposed of.

See Appendix C. The total number of fruit trees issued for the year is 5,202, which is an increase over last year of 1,647. The receipts by sale of fruit trees are also better than last year by Rs. 685.

Fodder and grain crops. No experiments were undertaken with fodder or cereal crops.

Vegetable garden. The usual crops of country and acclimatised vegetables were grown for seed production, and except in one or two minor sections the results were satisfactory.

Imported vegetable culinary peas. One of the difficulties in connection with the cultivation of culinary peas is in finding sticks to support the growing haulm. Of late years a number of excellent dwarf kinds have been introduced and as they require only short sticks to support them and are generally very prolific bearers, the best varieties of this class have been noted and their names are given for the information of those interested in growing drawf kinds that give good crops. They are :—

Early dwarf peas.
Sutton's Mary Queen 1½ to 2 feet high very prolific.
Sutton's Early Giant 2½ feet, good bearer.
Sutton's Bountiful 2½ to 3 feet, good cropper.

Late dwarf peas.
Sutton's Defiance 2 feet, very prolific.
Sutton's Peerless Marrowfat 2 feet, large peas; a very heavy cropper.
Sutton's Dwarf Mammoth Marrowfat 3 feet; large pods, a most abundant bearer.
Sutton's Prize Winner 2½ feet; small pods, but very prolific.
Sutton's Invincible Marrowfat 2½ feet, good sized pods; free bearer.
Sutton's Satisfaction Marrowfat 2½ to 3 feet; a free bearer.
Sutton's Dwarf late Marrowfat 2½ to 3 feet; a good bearer.
Dr. McLean 2½ to 3 feet; a good bearer.

The season was favourable for peas and tomatoes, and good crops have been gathered from both, chiefly for seed purposes. Disease attacked the tomato plants at an early stage, but this was checked and kept from developing by dusting the plants frequently with powdered sulphur. This was applied by shaking a bag made of fine muslin filled with powdered sulphur on the plants. I owe the suggestion for this method to Mr. Gollan, Superintendent, Government Botanical Gardens, Saháranpur.

There has been the usual fluctuation in the values realised by sale of vegetable and flower seeds, but the amounts are so small as not to require stating in detail. The total amount is an advance upon last year.

6. *Other trees and plants of economic value.*—There is very little calling for notice under this head. One or two small indents were received for fibre yielding plants, *viz.*, Agave Sisalana and Sanseviera cylindrica and which were complied with. The stock of plants of Agave Sisalana now numbers 500.

See Appendix C. 7. *Ornamental trees and plants.*—There was a good demand for ornamental trees and plants of all kinds, and the year's distribution is over 6,000 more than that of last year. The rose nursery was well stocked at the commencement of the season and proved equal to the demand made upon it. A few new varieties have been added. The growth of choice flowering annuals has been continued much on the same lines as in past years; and very good stocks of seeds have been harvested. Under acclimatization Nemesia strumosa has greatly improved, and has now become a favourite cold season flowering annual. The total number of seed packets sent out was 10,055, which is less by 2,306 than last year, but there is an increase in the total weight of seeds issued this year of 733lbs. The tree and shrub nurseries are well stocked with young plants ready for issue and the plant houses are also in good order; the stock of young palms is very large and capable of meeting a large demand. Due attention has been given to the introduction and propagation of the chief sections of flowering and ornamental plants.

Rose nursery.

See Appendix C.

III.—FINANCIAL RESULTS.

See Appendix A. 8. *Receipts.*—The estimated receipt for the year were Rs. 17,000, and the actual receipts amounted to Rs. 17,687, or Rs. 687 better than the estimate. If to this is added the value of plants and seeds, &c.,

issued free and at reduced rates, the total value of the year's outturn amounts to Rs. 19,767 which is less than last year by Rs. 678.

9. *Expenditure.*—The sanctioned expenditure was Rs. 17,500 and the actual expenditure Rs. 17,516. **See Appendix A.**

10. *Surplus or Deficit.*—Comparing receipts and expenditure, the actual receipts exceed the expenditure by Rs. 171, and if the total amount of the year's outturn is taken, *viz.* Rs. 19,767 a profit in the year's working is shown of Rs. 2,250.

IV.—MISCELLANEOUS.

11. *Training of Gardeners.*—There is still great difficulty in getting suitable boys to enter the garden as apprentices; several have resigned and left for other employment. Out of the 15 on the roll at the beginning of the year one has been transferred to Government House Garden. The vacancy has been filled leaving the full number of 15 at the end of the year. No less than 31 applications for trained malis were received, one only of which could be complied with. The number of the subscribers is the same as last year, *viz.* :—8 first class and 6 second class. **Subscribers.**

12. *Arboriculture.*—The arboricultural nursery has been carried on on much the same lines as in preceding years, the chief work being in raising and sending out young trees. The main feature of the year's work was in the larger issue of young trees which was 8,017 against 3,015 last year. There was a considerable demand for seedling mango trees for field and grove planting. As the stocks raised have for some years been in excess of requirements, the number raised this year has been reduced. It leaves the total stock in hand at the end of the year at 13,671, which will no doubt be more than equal to meet all demands upon it. A number of small seedlings chiefly mango were damaged by frost in January. **Arboricultural Nursery.**

The allotment for maintenance was Rs. 928 and the actual expenditure amounted to Rs. 959. The receipts were Rs. 153 which amount was duly paid to the Chairman of the District Board.

After a hard struggle the three surviving plants of Ceara Rubber, Manihot Glaziovii have succumbed, it is certainly a tender tree in this part of India. The only addition made was 12 plants of Biota Sp. Details of trees under trial are as follows :— **Exotic plantation.**

Names of trees under trial.	Number alive this year.	Number alive last year.	Remarks.
Antidesma dallachayna ...	2	2	Healthy ; growth slow.
Arabian date palms	1	...	Dead ; no specimen now left.
Broussonetia papyrifera ...	4	4	Healthy ; little growth.
Bambusa oliveriana	2	2	Healthy ; doing well.
Biota Sp	...	12	Healthy.
Casuarina tenuissima	4	4	Healthy ; fair progress.
Ceratonia Siliqua	6	6	Healthy ; little progress.
Eucalyptus rostrata	17	17	A few trees doing well ; others badly.
Eucalyptus cerbera	32	28	Four dead ; none doing well.
Eucalyptus tereticornis... ...	45	45	A few healthy; rest unsatisfactory.
Ficus Triemanii	5	5	Doing moderately well.
Ficus Tsiela	6	6	Ditto.
Garcinia Roxburghii	6	6	Healthy ; very slow growth.
Leacuna glauca	6	5	One dead ; rest are killed to ground level.
Maclura aurantiaca	4	4	Doing well.
Manihot Glaziovii	3	...	All dead.
Melia azadarach var umbraculiformis,	6	6	Healthy ; doing well.
Pterocarpus marsupium ...	4	4	Two doing well ; two badly.
Pithecolobium saman	15	15	All in a dying condition ; can only last a year or so longer.
Swietenia macrophylla ...	6	5	One dead, 2 other sickly, 3 healthy.
Tecoma serratifolia	4	3	One dead, the others have made little growth.

The allotment for the year was Rs. 100 of which Rs. 83 was spent. Receipts amounted to Rs. 18.

Date Plantation.

There is nothing that calls for special notice in connection with the date plantation which is in much the same condition as last year. The allotment for the year was Rs. 350 out of which Rs. 280 was spent. Receipts were Rs. 8 only.

13. *Flower Show.*—The flower show was held on the 28th February in the Wing field Park. Owing to the long period of dry weather which preceded the exhibits in the flower section were not quite so good as usual. Most of the pot plants were of the average standard, and vegetables in nearly all classes were good. Competition was keen in some sections and the public interest in the show and its results was well maintained.

The total number of exhibits was 615 against 662 in the previous year, the decrease being due to a smaller show of vegetables by private exhibitors. Subscriptions brought in Rs. 482 and admission fees Rs. 245; while Rs. 487 was expended in prizes and Rs. 155 went in miscellaneous charges. The balance at credit of the show fund is Rs. 590.

The three appendices *A*, *B* and *C*, are submitted in the form prescribed and give details of receipts and expenditure, contributions and distribution for the year.

M. RIDLEY,

Supdt., Govt. Horticultural Gardens, Lucknow.

APPENDIX A.—*(See Report paras 8 & 9.)*

Statement showing the receipts and expenditure of the Government Horticultural Gardens, Lucknow, for the year ending 31st March 1902.

Heads.	Actuals of 1900-1901.	Budget estimate for 1901-1902.	Actuals of 1901-1902.
1	2	3	4
Receipts.	Rs.	Rs.	Rs.
Interest on Government Notes	94		94
Rent of land	420		273
Subscriptions	276	17,000	228
Sale of garden produce	13,404		14,101
Miscellaneous	2,639		2,991
Total, Receipts ...	16,833	17,000	17,687
Charges.			
Salary, &c. of Superintendent	3,804	3,807	3,806
Establishment	4,686	4,978	4,976
Allowances	204	...	...
SUPPLIES AND SERVICES :—			
Purchase of seeds and plants	3,557	4,128	4,128
Purchase of live stock	263	242	242
Feed of live stock	1,578	1,248	1,248
Purchase of manure...	46	36	36
Maintenance of premises	200	476	476
Coolie labour	1,000	972	963
Contingencies	1,506	1,641	1,641
Deduct for rounding	...	—28	...
Total, Charges ...	16,844	17,500	17,516

APPENDIX B.

List of contributors to the Garden during the year ending 31st March 1902.

Names of contributors.	Name and description of articles contributed.
Director, Botanical Gardens, Melbourne.	12 packets of seeds of shrubs and trees.
The Manager, Practical Institute, Cossipur.	4 packets of palm seeds.
The Superintendent, State Garden, Baroda.	5 lbs. of seeds of Caryota urens.
	10 seeds of Hyphœne thebaica.
	5 packets of seeds of trees and shrubs.
The Superintendent, Botanical Garden, Banglore.	½ lb seeds of Swietenia Mahogani.
	1 packet of seeds of Erythrina umbrosa.
The Superintendent, Royal Botanical Garden, Calcutta.	2 lbs of seeds of Phœnix rupicola.
The Superintendent, Government Garden, Allahabad.	Cuttings of 12 new choice Chrysanthemums.
	Cuttings of 22 choice named roses.
The Superintendent, State Garden, Gwalior.	50 seeds each of fine kinds of rare and ornamental palms.
	1 packet Callistemon floribunda.
	Cuttings of 10 choice named roses.
	A large plant of Orchid. (Phalænopsis esmeralda).
The Superintendent, Agri-Horticultural Garden, Lahore.	27 plants of large fld. Canna.
	100 bulbs of New Hyb. Amaryllis.
	18 plants of trees shrubs and creepers.
	82 large plants of 82 choice named Chrysanthemums.
	150 seeds of Magnolia Grandiflora.
	100 seeds of Aleurites Moluccana.
	6 oz. Mignonette seed.
	50 seeds of Camphora officinalis.
	2 packets of tree and Canna seeds.
The Superintendent, Botanical Garden, Saháranpur.	3 oz. seeds of Pinus longifolia.
	50 small plants of Livistona rotundifolia.
	50 Ditto Livistona Olivæformis.
Superintendent, Government Garden, Ootacamund.	4 packets seeds of trees and shrubs.
	3 dozen fruits of Mango teen.
Superintendent, Agri-Horticultural Society's Garden Madras.	3 packets seeds of palms and trees.
A. H. Pirie, Esq. Lucknow.	1 packet seeds of Clianthus Dampierii.
C. Nickells, Esq. Jaunpur.	1,000 Strawberry plants.
A. Tullock, Esq. Bridgmungunge.	1 packet of seeds of Stephanotis grandiflora
Messrs. William Bross, Heneratagoda, Ceylon.	1 packet of seeds of Java Sugarcane.

APPENDIX C.—(*See Report paras. 5 and 7.*)

Showing the amount of plants and seeds distributed from the garden during the year ending 31*st March* 1902.

Department, &c., supplied.	Plants.									Seeds.						
	Fruits.			Ornamental and Timber trees.		Ornamental plants and shurbs.		Bulbs and tubers.	Total.	Vegetable.	Flowers.	Fruit.	Tree and shrub.	Miscellaneous.	Total.	
	Plants.	Cuttings.	Strawberries.	Plants.	Cuttings.	Plants.	Cuttings.								Number of packets.	Weight.
																lbs. oz.
Arboriculture	25	...	...	...	...	...	...	...	25	...	...	...	...	...	...	...
General public	3,098	39	5,471	922	...	7,661	673	8,427	26,291	2,144	5,364	4	83	2	7,597	1,807 6⅞
Govt. and public gardens in India,	1,944	24	4,000	1,306	...	3,169	6	3,427	13,876	689	1,710	1	12	3	2,415	517 13¼
Govt. and public gardens in other countries.	...	...	...	...	...	49	24	...	73	...	...	...	...	...	...	...
Jails	135	...	...	...	...	32	...	...	167	40	3	...	...	...	43	6 9
	5,202	63	9,471	2,228	...	10,911	703	11,854	40,432	2,873	7,077	5	95	5	10,055	2,331 13⅛

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Hemendra Kothari

on 24 February, 2020

ORDERS OF GOVERNMENT.

No. $\frac{1880}{\text{I—727F}}$ of 1902.

FROM

W. H. L. IMPEY, ESQ.,
CHIEF SECRETARY TO GOVERNMENT,
UNITED PROVINCES OF AGRA AND OUDH,

To

THE DIRECTOR OF LAND RECORDS AND AGRICULTURE,
UNITED PROVINCES OF AGRA AND OUDH.

DATED NAINI TAL, THE 25TH JUNE 1902.

SIR,

REVENUE DEPT. I AM directed to acknowledge the receipt of your letter No. $\frac{2595}{\text{V—606}}$, dated $\frac{\text{28th May}}{\text{12th June}}$ 1902, submitting the Report on the Government Horticultural Gardens at Lucknow for the year ending 31st March 1902. Notwithstanding unfavourable seasons, under Mr. Ridley's efficient management the financial results were satisfactory. I am to request that the acknowledgments of Government may be conveyed to the contributors to the gardens.

I have the honour to be,

SIR,

Your most obedient servant,

W. H. L. IMPEY,

Chief Secretary.